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WHAT IS CLAIMED IS:

1. An cardiac harness for treating or preventing congestive heart failure, comprising:

a plurality of interconnected elastic bending hinges, each bending hinge comprising a central portion connected on opposite sides to respective arm portions, said arm portions interacting with said central portion in response to deflection of said arm portions to create a bending moment in said hinge to store potential energy.

2. The cardiac harness of Claim 1, wherein said bending hinges are substantially U-shaped.

3. The cardiac harness of Claim 1, wherein said bending hinges are substantially V-shaped.

4. The cardiac harness of Claim 1, wherein said bending hinges are substantially square-wave-shaped.

5. The cardiac harness of Claim 1, wherein said bending hinges are substantially teardrop-shaped.

6. The cardiac harness of Claim 1, wherein said bending hinges are substantially keyhole-shaped.

7. The cardiac harness of Claim 1, wherein said at least one of said bending hinges from a first row is connected to another of said bending hinges from a second row.

8. The cardiac harness of Claim 1, wherein said bending hinges are formed from at least one strand of Nitinol.

9. The cardiac harness of Claim 1, wherein said at least one strand comprises a wire.

10. The cardiac harness of Claim 1, wherein said at least one strand comprises a ribbon.

11. The cardiac harness of Claim 1, further comprising a power source that supplies energy to said harness, causing said harness to contract.

12. The cardiac harness of Claim 11, wherein said power source delivers electrical energy to at least one of said bending hinges, causing at least one of said bending hinges to produce said bending moment.

13. The cardiac harness of Claim 11, wherein said power source delivers mechanical energy to said cardiac harness through a cable.

14. The cardiac harness of Claim 11, wherein said power source is programmable via transcutaneous radiofrequency signals.

15. The cardiac harness of Claim 11, wherein said power source is rechargeable via transcutaneous electromagnetic coupling.

16. The cardiac harness of Claim 11, wherein said power source is rechargeable via transcutaneous inductive field coupling.

17. An apparatus for treating or preventing congestive heart failure, comprising:

a cardiac harness having a plurality of spring elements, said harness adapted to be placed around at least a cardiac base;

wherein said spring elements interact such that said harness expands and contracts in a substantially transverse dimension of said harness in the region of the cardiac base in response to the mechanical cardiac cycle, without substantial expansion or contraction in the longitudinal dimension of said harness in the region of the cardiac base.

18. The apparatus of Claim 17, wherein said spring elements comprise of Nitinol.

19. An apparatus for treating or preventing congestive heart failure, comprising:

a cardiac harness having a plurality of spring elements, said harness adapted to be placed around at least a cardiac apex;

wherein said spring elements interact such that said harness expands and contracts in a substantially longitudinal dimension of said harness in the region of the cardiac apex in response to the mechanical cardiac cycle, without substantial expansion or contraction in the transverse dimension of said harness in the region of the cardiac apex.

20. The apparatus of Claim 19, wherein said spring elements are comprise Nitinol.

21. An apparatus for treating or preventing congestive heart failure, comprising:

at least one elongate strip sized to fit around at least a base of a ventricle of a heart, such that said strip extends substantially transverse to the longitudinal axis of the heart, said strip comprising at least one spring element, said at least one spring element configured to cause said strip to provide force against said at least a base of a ventricle in a substantially transverse direction without substantial force in a longitudinal direction.

22. The apparatus of Claim 21, wherein said strip surrounds the heart.

23. The apparatus of Claim 21, wherein said strip surrounds the left ventricle.

24. The apparatus of Claim 21, wherein said strip surrounds the right ventricle.

25. The apparatus of Claim 21, wherein said strip comprises at least one undulating strand.

26. The apparatus of Claim 21, wherein said at least one spring element comprises a central portion and two arm portions.

27. The apparatus of Claim 21, wherein said at least one spring element comprises Nitinol.

28. An apparatus for treating or preventing congestive heart failure in a heart having a ventricle that changes sphericity in response to diastolic filling, said apparatus comprising:

a harness comprising a plurality of interconnected spring elements, said harness limiting diastolic distention of said ventricle to a degree of expansion without substantially altering naturally occurring changes in said sphericity through said degree of expansion caused by diastolic filling of said heart.

29. The apparatus of Claim 28, wherein at least one of said spring elements comprises Nitinol.

30. An apparatus for treating or preventing congestive heart failure in a heart having a ventricle that changes sphericity in response to diastolic filling, said apparatus comprising:

a harness comprising a plurality of interconnected spring elements, said harness limiting diastolic distention of said ventricle to a degree of expansion while substantially decreasing the magnitude of a naturally occurring increase in said sphericity through said degree of expansion caused by diastolic filling.

31. The apparatus of Claim 30, wherein at least one of said spring elements comprises Nitinol.

32. A harness for treating or preventing congestive heart failure, comprising:

a series of interconnected spring elements, each spring element comprising:

a central portion; and

a pair of arm portions extending along respective paths that originate at respective sides of the central portion and converge toward each other along at least a portion of said paths as said paths extend away from said central portion.

33. The harness of Claim 32, wherein at least one of said spring elements comprises Nitinol.

34. A cardiac harness, comprising:

first and second strands of material each having a plurality of hinges, each of said hinges formed by a pair of arm portions extending from a central portion, each hinge within said plurality of hinges of the first strand having both arm portions disposed within a hinge of the second strand, between the arm portions of said hinge of the second strand.

35. The cardiac harness of Claim 34, wherein at least one of said hinges comprise Nitinol.

36. The cardiac harness of Claim 34, wherein at least one of said strands comprises a band.

37. A method of assembling a cardiac harness, comprising:

providing a plurality of rings, each of said rings having a series of periodic undulations, each of said rings being unattached to other of said rings; and

interconnecting the rings by interleaving said undulations without interrupting continuity of the rings.

38. The method of Claim 37, wherein at least one of said rings comprises Nitinol.

39. A cardiac harness, comprising:

a plurality of interconnected spring elements comprising Nitinol.

40. An apparatus for treating or preventing congestive heart failure, comprising:

a cardiac harness comprising interconnected strands of material;

at least one pad having a marginal edge that is oriented for placement in proximity to at least one coronary artery, so as to reduce compression of said artery by said harness.

41. The apparatus of Claim 40, wherein said material comprises Nitinol.

42. An apparatus for treating or preventing congestive heart failure, comprising:

a cardiac harness comprising interconnected strands of material which traverse an exterior surface of a ventricle of the heart, without traversing a substantial portion of the length of at least one coronary artery selected from the group consisting of the left anterior descending artery, the right coronary artery, the left circumflex artery, the posterior descending artery, and the obtuse marginal artery.

43. The apparatus of Claim 42, wherein said material comprises Nitinol.

44. The apparatus of Claim 42, wherein the harness comprises a support member which supports a portion of said strands, said member having side portions disposed on opposite sides of said at least one coronary artery.

45. An apparatus for delivering a cardiac harness having side portions and an apex portion, comprising:

a catheter body having a distal end portion, configured to retain said harness in a substantially inverted condition with an interior side of the harness facing outward away from a ventricle and an exterior side facing inward toward said ventricle;

an activation member which is movable relative to said catheter body, the apex portion of said harness releasably connected to the catheter body, said activation member driving said side portions of said harness distally and outwardly relative to said apex portion such that said harness expands circumferentially, whereby said harness everts to at least partially surround the ventricle, with said interior side of the harness facing inward toward said ventricle and said exterior side facing away from said ventricle.

46. The apparatus of Claim 45, wherein said distal end portion comprises a suction cup.

47. A method of delivering a cardiac harness, comprising:

providing a catheter having an inverted harness mounted on a distal end portion of said catheter;

inserting said catheter into a thorax such that an apex portion of said inverted harness is proximate to the apex of a ventricle;

everting side portions of said harness while said apex portion of said harness remains positioned proximate to an apex of said ventricle.

48. The method of Claim 47, wherein said cardiac harness comprises Nitinol.

49. A method of manufacturing a cardiac harness, comprising:

forming an elongate member having undulations from a sheet of material.

50. The method of Claim 49, wherein said material comprises Nitinol.

51. The method of Claim 49, wherein said forming said elongate member comprises forming said undulations in a plane substantially parallel to said sheet of material.

52. The method of Claim 51, wherein said forming comprises cutting said elongate member on a flat surface.

53. The method of Claim 51, further comprising annealing said material with the undulations oriented at a substantial angle relative to said plane.